



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,380	08/21/2003	David Lin	NL163-2 (15737-255)	8088
23595 7590 03/30/2007 NIKOLAI & MERSEREAU, P.A. 900 SECOND AVENUE SOUTH SUITE 820 MINNEAPOLIS, MN 55402			EXAMINER THAKUR, VIREN A	
			ART UNIT 1761	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/30/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/645,380	LIN ET AL.	
	Examiner	Art Unit	
	Viren Thakur	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-11 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unclear to the examiner that there exists any known plastic film that is sufficiently permeable to release pressure that is generated during the cooking process. It is further unclear as to how a film allows for the release of excess pressure and also providing reversible pressure control. There are known plastic films such as spun-bonded polyolefin films as well as micro-perforated films that will allow for the relief of the accumulated vapor pressure, however relief of pressure is as a result of macroscopic apertures within the film or bound fibers and are not a result of the permeability of the film. Furthermore, polyethylene terephthalate is known to be the most permeable film and it is not known to allow for the release of gas. Nevertheless,

the specification does not provide sufficient disclosure to determine that one skilled in the art is enabled to make and use the claimed invention, which incorporates a reversible vapor pressure regulating film.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The above-specified claims recite the limitation "...open up the pseudo-closed tiny gaps gradually..." on line 23 of claim 1. It is unclear as to what orientation of a gap can be considered pseudo-closed. Additionally, it is unclear as to what is considered a tiny gap. Furthermore, it is not clear as to how gradual the opening of the gaps occurs during the heating process.
5. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to how a microwaveable container or a method of manufacturing a microwaveable container is airtight and placed into a microwave, without such a container

containing a food product. The examiner notes that a positive recitation of a food product is required to distinctly claim the subject matter.

6. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to what constitutes a reversible vapor pressure regulating film. Sufficient disclosure has not been provided to determine what constitutes a reversible vapor pressure regulating film.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. Claims 1-9 and 11 are rejected under 35 U.S.C. 103(a) as being obvious over Yoshida (JP 2003040283) in view of Lin (TW 522123) and Olson et al. (U.S. 5,753,895).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

With regard to Claims 1-9 and 11, Yoshida teaches a microwaveable container (See Abstract) which is a bag, having an air tight compartment (See

Abstract; Figure 1, Item 12) containing food (Figure 1, Item 100), further comprising a secondary compartment (Figure 1, Item 15) and a passage assembly (Figure 1, Item 16b) which opens upon heating to allow for the passage of vapor pressure from the food into the secondary compartment (See Abstract), thus prevention bursting of the package (See Detailed Description, Paragraph 0025). For examination purposes it is interpreted that a packaging bag is a container since it is intended for holding contents within. With regard to Claims 1 and 4, it is obvious that vapor pressure is generated within a food compartment when said food compartment is heated. Furthermore, if means have not been incorporated to relieve that pressure, the enclosed space within the container will cause the container to expand until the container bursts or until the pressure is relieved. It is thus obvious that another means of providing relief for such a build up of pressure is to expand the enclosed space therein such as a holding compartment to allow for excess pressure to be relieved. As recited in Claims 2, 5 and 9, Yoshida further teaches said passage assembly comprised of an adhesive material of low adhesion (See Detailed Description, Paragraph 0027, 0038). With regard to Claims 3, 6 and 9, it is further obvious that since Yoshida teaches the use of a low adhesion strength joint, that this adhesive is a polymer layer such as a hot melt elastomer or rubber. Such polymers are known adhesives in the art. Since the adhesive is incorporated using heat welding (See Detailed Description, Paragraph 0038) it is obvious that this adhesive must be a material, such as a low adhesion polymer. With regard to claim 7, it is obvious

that since Yoshida discloses a microwaveable packaging product with a food product therein that a method must be incorporated therein to manufacture said product, comprising the steps of forming a food region (Figure 1, Item 12), forming a pressure regulating region (Figure 1, Item 15) and applying an adhesive material of weak heat sealing strength for forming a passage assembly (Figure 1, Item 16b). As recited in Claim 8, Yoshida discloses heat sealing said passage assembly (See Detailed Description, Paragraph 0017). It is interpreted that controlled platen heating on the tape, as disclosed constitutes assembly of the passage assembly by heating and pressing.

Yoshida does not teach providing a reversible vapor pressure regulating film for the secondary compartment, which comprises pseudo-closed gaps that automatically regulate the vapor pressure within the pressure regulating compartment. Thus, Yoshida does not teach relief of the pressure within said secondary compartment to the atmosphere. Additionally, Yoshida does not teach wherein the sealing ability of the pseudo-closed gaps along the pressure regulating film are restored when cooled and thus being reversibly function of the pressure difference. Furthermore, Yoshida does not positively recite a low strength adhesive such as polyester or a polyamide, as recited in Claims 3, 5 and 9.

As recited in Claims 1, 4 and 7, Lin teaches a method for manufacturing a packaging bag wherein the packaging bag is made of an air permeable material with an air permeable film having a plurality of slits that allows for pressure relief

due to the generation of vapor pressure within the bag during microwave heating, so as to prevent bursting of the bag (See Abstract). The pressure relief is a result of the slits having dynamic pressure adjustment properties, this allowing for the release of pressure when a differential occurs. For examination purposes it is interpreted that a packaging bag is a container since it is intended for holding contents within. Lin further teaches that the bag maintains the freshness of the contents within during normal or low temperature (See Abstract). As further recited in Claim 1, 4 and 7, it is obvious that Lin teaches expansion and contraction of said slits during cooking and cooling since Lin discloses a dynamic expansion due to pressure deviations. This is interpreted as an expansion or contraction of the slits dependent on the pressure variation between the contents within the container versus the atmospheric pressure. Thus Lin teaches the use of a reversible vapor pressure regulating film which incorporates slits that can open when heating to relieve the pressure and close once heating is removed to maintain pressure within the container.

As recited in Claims 2, 5 and 9, Olsen et al. teach a microwaveable popcorn bag (Figure 1, Item 1) wherein the top (Figure 1, Item 90) and bottom (Figure 1, Item 93) ends of the are heat sealed (Column 6, Line 4-5). Olsen et al. further teach that the top end (Figure 1, Item 90) is sealed such that the internal pressure during microwave heating causes the heat seal to open, thus relieving the pressure (Column 6, Line 4-14). The heat seal is made through the adhesion of polyvinyl acetate, a rubber (Column 12, Line 58-65; Column 16, Line 26-30).

Nevertheless, it would have been obvious to a person having ordinary skill in the art at the time the invention as made to modify Yoshida to incorporate a reversible vapor pressure regulating film, as taught by Lin and Olsen et al. for the purpose of providing a means of pressure relief once the passage between the food compartment and the secondary compartment of Yoshida has been opened. Such a modification allows for the further release of pressure from the container of Yoshida for situations where the container of Yoshida is placed in the microwave for a greater period of time than that permitted by the strength of the packaging film. In such a case, the vapor pressure will increase to the point where the secondary compartment can burst, thus requiring further atmospheric pressure relief.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (JP 2003040283). Yoshida teaches a microwaveable food package container comprising a food compartment and a pressure-relieving compartment as discussed in paragraph 9, above. Yoshida further discloses a singular gap (Figure 1, Item 16b) in the junction (Figure 1, Item 16) between the food compartment (Figure 1, Item 12) and the pressure-relieving compartment (Figure 1, Item 15) that is sealed using an adhesive of weak heat sealing strength (See Detailed Description, Paragraph 0027, 0038). Yoshida does not disclose a plurality of gaps on the junction between the food region and the pressure regulating region. Nevertheless, it would have been obvious to a person having

ordinary skill in the art at the time the invention as made to modify Yoshida to provide a plurality of gaps for the purpose of providing a more dispersed passage of vapor pressure from the food compartment to the pressure relieving compartment. Such a modification will prevent an irregular expansion, versus the even expansion of the food compartment section, which could result in premature bursting of the food compartment section.

11. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (JP 2003040283) in view of Lin (TW 522123) and Olsen et al (U.S. 5,753,895) and in further view of Colombo (U.S. 6,023,915). Yoshida in view of Olsen et al. teach a microwaveable food package container comprising a food compartment and a pressure-relieving compartment as discussed in paragraphs 9 and 10, above.

Yoshida does not teach relief of the pressure within said secondary compartment to the atmosphere. Additionally, as recited in Claims 1 and 4, Yoshida does not teach providing a reversible vapor pressure regulating film for the secondary compartment which comprises pseudo-closed gaps that automatically regulate the vapor pressure within the pressure regulating compartment. Additionally, Yoshida does not teach wherein the sealing ability of the pseudo-closed gaps along the pressure regulating film are restored when cooled and thus being reversibly function of the pressure difference.

Colombo teaches a modified atmosphere packaging for food products (Figure 2, Item 10; Column 3, Line 31-35) comprising a gas impermeable film (Figure 2, Item 18; Column 6, Line 30-41). Thus Colombo teaches preserving the freshness of the food product within the package. Furthermore, an embodiment of the invention as taught by Colombo discloses said package to be self venting and used in microwaveable applications (Column 6, Line 56-58); thus forgoing the need for piercing or peeling back the cover to provide pressure relief during heating. Colombo further discloses a one-way valve (Figure 2, Item 20) that allows for the release of vapor pressure (Column 6, Line 62-67). Once the pressure is released pressure is equalized. With regard to Claims 1, 4 and 7, Colombo further teaches reversible pressure regulation, since pressure is relieved upon heating and pressure is maintained or increased so as to prevent a pressure differential (Column 5, Line 42-47). It is interpreted that film and valve of Colombo teaches a reversible vapor pressure regulating film, since said valve is incorporated into said film, and said valve is a gap that opens to relieve the pressure when heating but will also maintain pressure within the container when not heated. Thus, Colombo teaches the automatic regulation of vapor pressure within the enclosed space of a microwaveable container using a valve that opens and closes to regulate the pressure within the container.

It would have been obvious to a person having ordinary skill in the art at the time the invention as made to modify Yoshida to include a means for reverse pressure regulation as taught by Colombo for the purpose of producing a

container that would not require peeling or puncturing of the secondary compartment for venting to the atmosphere. Additionally, such a modification will allow for the heating of the package of Yoshida without having to monitor the package.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. 4,404,241 discloses a microwave package with a multilayered material comprising vent wherein said vent is initially sealed using a hot melt material that provides moisture barrier properties. U.S. 5,114,766 discloses a container provided with a multilayer cover having venting means wherein said vents are sealed using a first layer. Upon heating said first layer is ruptured due to the increase of vapor pressure, thus allowing the vents to relieve the pressure. U.S. 4,419,373 discloses a method of microwave heating of the contents of a container that is self-venting. Said venting is carried out through the expansion of the thermoplastic film and subsequent rupture of the film. U.S. 6,641,882 discloses a packaging bag that is heated in a microwave oven that contains multiple compartments that are segmented using heat sealing methods. Upon microwave heating the seals are broken due to the increased vapor pressure, thus mixing the contents of the multiple compartments. U.S. 4,172,903 discloses a method of cooking compartmentalized food wherein the vapor

pressure from one compartment passes into a second compartment to then cook a second food product. U.S. 4,530,440 discloses a container with a lid that is heated, that contains two compartments. Furthermore, one compartment comprises a lid that does not contain venting means, while a second compartment contains a lid that comprises a venting means. JP 2003040356A discloses a food storage bag having two separate compartments wherein one compartment contains a food product and the second compartment allows for the relief of the pressure generated in the food compartment during microwave heating.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viren Thakur whose telephone number is (571)-272-6694. The examiner can normally be reached on Monday through Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1761

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Viren Thakur
Patent Examiner
Art Unit: 1761



MILTON I. CANO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700